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## Article

# Econometrics and income inequality

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Editorial

# Econometrics and Income Inequality

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It is well-known that, after decades of non-interest in the theme, economics has experienced a proper surge in inequality research in recent years. In addition to numerous research articles in scientific journals, this has brought to us publications such as Thomas Piketty's *Capital in the 21st Century* and Tony Atkinson's *Inequality: What can be done?*, which are highly visible in the public domain. As in many other fields of the discipline, the analysis of inequality poses both interesting theoretical and statistical problems. The present Special Issue of *Econometrics* is a collection of 15 excellent papers that address some of these issues.

The articles range from purely methodological contributions on the measurement of inequality to questions of statistical inference and to substantive empirical contributions in various fields of empirical inequality research. Starting with contributions to the pure measurement of inequality, **"From the Classical Gini Index of Income Inequality to a New Zenga-Type Relative Measure of Risk: A Modeller's Perspective"** by Francesca Greselin and Ričardas Zitikis provides a fascinating theoretical treatment that unifies theoretical inequality indices and various measures of risk. Further contributions to the pure theory of inequality measurement come from **"On the Decomposition of the Esteban and Ray Index by Income Sources"** by Elena Bárcena-Martín and Jacques Silber and from **"Decomposing the Bonferroni Inequality Index by Subgroups: Shapley Value and Balance of Inequality"** by Giovanni M. Giorgi and Alessio Guandalini. Both contributions consider decomposability properties of inequality and polarization measurement procedures, an important topic with a long tradition in the literature. The paper **"Inequality and Poverty When Effort Matters"** by Martin Ravallion tackles another long-standing question in the inequality literature, namely the incorporation of income differences due to differential effort. One of the many highlights of this Special Issue is the paper **"Decomposing Wage Distributions Using Recentered Influence Function Regressions"** by Sergio P. Firpo, Nicole M. Fortin, and Thomas Lemieux. This paper works out the so-called "hybrid" Re-centered Influence Function (RIF-) regression decomposition, which enjoys enormous popularity among applied researchers. The paper has already received a lot of citations as a working paper and we hope that it continues to do so as a part of this Special Issue.

An important part of the Special Issue deals with problems of statistical inference. As in other fields, statistical inference is a necessity when carrying out inequality analyses. Unfortunately, due to their usually complex and nonstandard nature, working out statistical inference procedures for methods of inequality measurement is often challenging. The article **"Statistical Inference on the Canadian Middle Class"** by Russell Davidson develops distribution-free methods for the measurement of middle-income shares and applies them in order to measure the size of the Canadian Middle Class. The paper **"Parametric Inference for Index Functionals"** by Stéphane Guerrier, Samuel Orso, and Maria-Pia Victoria-Feser proposes an inference procedure for inequality index functionals, based on a Generalized Method of Moment estimator for parametric data generating mechanisms, and evaluates its finite sample performance. In their article **"A Hybrid MCMC Sampler**

for **Unconditional Quantile Based on Influence Function**", El Moctar Laghlal and Abdoul Aziz Junior Ndoye develop a Bayesian estimation method for the unconditional RIF-regression that has a superior performance in the presence of heavy-tailed distributions. **"Using the GB2 Income Distribution"** by Duangkamon Chotikapanich, William E. Griffiths, Gholamreza Hajargasht, Wasana Karunaratne, and D. S. Prasada Rao is a highly useful survey article on the estimation and inference problems for the generalized beta distribution of the second kind (GB2). This distribution enjoys high levels of popularity among inequality researchers due to its flexibility and good fit in empirical applications.

The Special Issue contains two interesting papers on the popular topic of measuring top incomes. Such top incomes have been known to be on the rise in many advanced countries, so much so that adequate statistical estimation and inference procedures are of high interest. **"Top Incomes, Heavy Tails, and Rank-Size Regressions"** by Christian Schluter studies rank-size regressions of tail exponents. This method still represents the most popular estimation technique of this kind in applied studies in economics. The author shows, both theoretically and empirically, based on UK data, that the method may lead to size distortions that undermine statistical inference in practice. Another study focusing on the very top of the distribution is **"Incomes and Inequality Measurement: A Comparative Analysis of Correction Methods Using the EU SILC Data"** by Vladimir Hlasny and Paolo Verme. Based on data for European countries, the paper provides an analysis of reweighting and replacing methods to correct inequality measure for top-income biases generated by data issues such as unit or item nonresponse. The authors show that income inequality may be substantially underestimated if no correction techniques are used.

Finally, this Special Issue contains a number of substantive empirical studies in a wide range of relevant settings. **"Polarization and Rising Wage Inequality: Comparing the U.S. and Germany"** by Dirk Antonczyk, Thomas DeLeire, and Bernd Fitzenberger provides an in-depth analysis of the differences in wage polarization trends in the US and Germany. The authors find that their evidence is consistent with a technology-driven polarization of the labor market, but that there are important country-specific factors, such as cohort effects. **"The Wall's Impact in the Occupied West Bank: A Bayesian Approach to Poverty Dynamics Using Repeated Cross-Sections"** by Tareq Sadeq and Michel Lubrano applies a sophisticated Bayesian modelling strategy to investigate the effect of the wall in occupied West Bank on poverty persistence for the affected population. The paper **"Income Inequality, Cohesiveness, and Commonality in the Euro Area: A Semi-Parametric Boundary-Free Analysis"** by Gordon Anderson, Maria Grazia Pittau, Roberto Zelli, and Jasmin Thomas studies the question of income cohesiveness in the Euro area using an approach based on mixture distributions. The authors conclude that the Eurozone is best described by a four-class, increasingly unequal polarizing structure with income growth in all four classes. Finally, in **"Foreign Workers and the Wage Distribution: What Does the Influence Function Reveal?"**, Chung Choe and Philippe Van Kerm study the impact of Foreign Workers on Wage Distribution in Luxembourg. The case of Luxembourg is particularly interesting because of its extremely high share of foreign workers. The paper also makes a methodological contribution related to the RIF-methodology, thus nicely connecting to other papers in the Special Issue.

We are very grateful to all contributing authors, who have made considerable efforts to meet the standards of the journal. We believe that this Special Issue has been very successful in attracting topical and high-quality contributions, many from very well-known scholars in the field, proving that open access-publishing is a realistic option for our discipline. We also would like to thank the numerous reviewers who have greatly contributed to the quality of the published papers. Last but not least, we thank the editor-in-chief, Marc Paoletta, and the team of assistant editors, Vera Zhu, Lu Liao, and Michele Cardani, for their excellent support.



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